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Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, Management Staff

DATE: 29 April 1958

FROM : Chief, Business Machines Service

SUBJECT: Comments on OCI Paper "Intelligence Communications and Related Procedures"

1. The attached paper proposes the establishment of an integrated self-contained communications system to be used for and operated by the intelligence community. The purpose of the establishing the proposed system is to "get the bulk of all intelligence reports from the field to the using analytic office within twenty-four hours instead of the weeks required at present."

2. The proposed means for accomplishing this speed-up is basically, by recording the original material in machine language tape through the use of Flexowriters and then using this tape to automatically operate in relay centers, high speed transmitters, encyphering machines and teleprinters as a means of transmitting and receiving the data on a 24 hour basis. By this means the majority of manual paper handling and slow transmission mediums are eliminated.

3. From a machine point of view, the proposed system could be implemented with commercially available equipment and equipment under development by the Agency. However, a comprehensive Feasibility Study including systems, organization and machines would first be required to develop an operating plan. The cost of such a study together with the cost of machines, determined necessary by the study, would amount to several millions of dollars. There does not appear to be sufficient tangible savings to offset the cost. Therefore, the decision to make the study and to develop and install the proposed system should be based on the value to the intelligence community of transmitting and receiving intelligence data on a 24 hour time schedule.

4. Should such a decision be made, it seems that it would be equally appropriate to consider some means for saving the time of the analysts who will receive the daily flood of information. One method which would help those responsible for determining the distribution as well as the recipients of the data, would be to provide an abstract for each item received. To manually prepare those abstracts is obviously not to be considered. However, the use of high speed computer techniques for automatically preparing abstracts of English or foreign language textual material is being researched and developed by the IBM Corporation. Demonstrations of these techniques called "Auto-Abstracting" have been made and the resulting abstracts have been evaluated as excellent at this point of time in research and development.

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Briefly, the "Auto-Abstracting" method is as follows:

The text to be abstracted is translated in to the machine language (in this case the punched paper tape from the receiving teleprinter would serve) and fed into an electronic data processor. The data processor then analyzes the text word for word, to determine the frequency and distribution of words. Most important sentences are determined by the number of times high frequency words are used, their location in the sentence and the position of the sentence in the paragraph. These sentences are then automatically extracted and printed.

The abstracts thus obtained could be processed for the required number of copies for distribution in the same manner as the text.

5. It is recommended that the Special Intelligence Staff of OCI consider this new technique for possible application now and in the future. A demonstration of "Auto-Abstracting" can be arranged by this Staff.



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